

A GIS Platform



For Transportation Planning

one
corporate
system

no user
limitations

3-clicks
or less

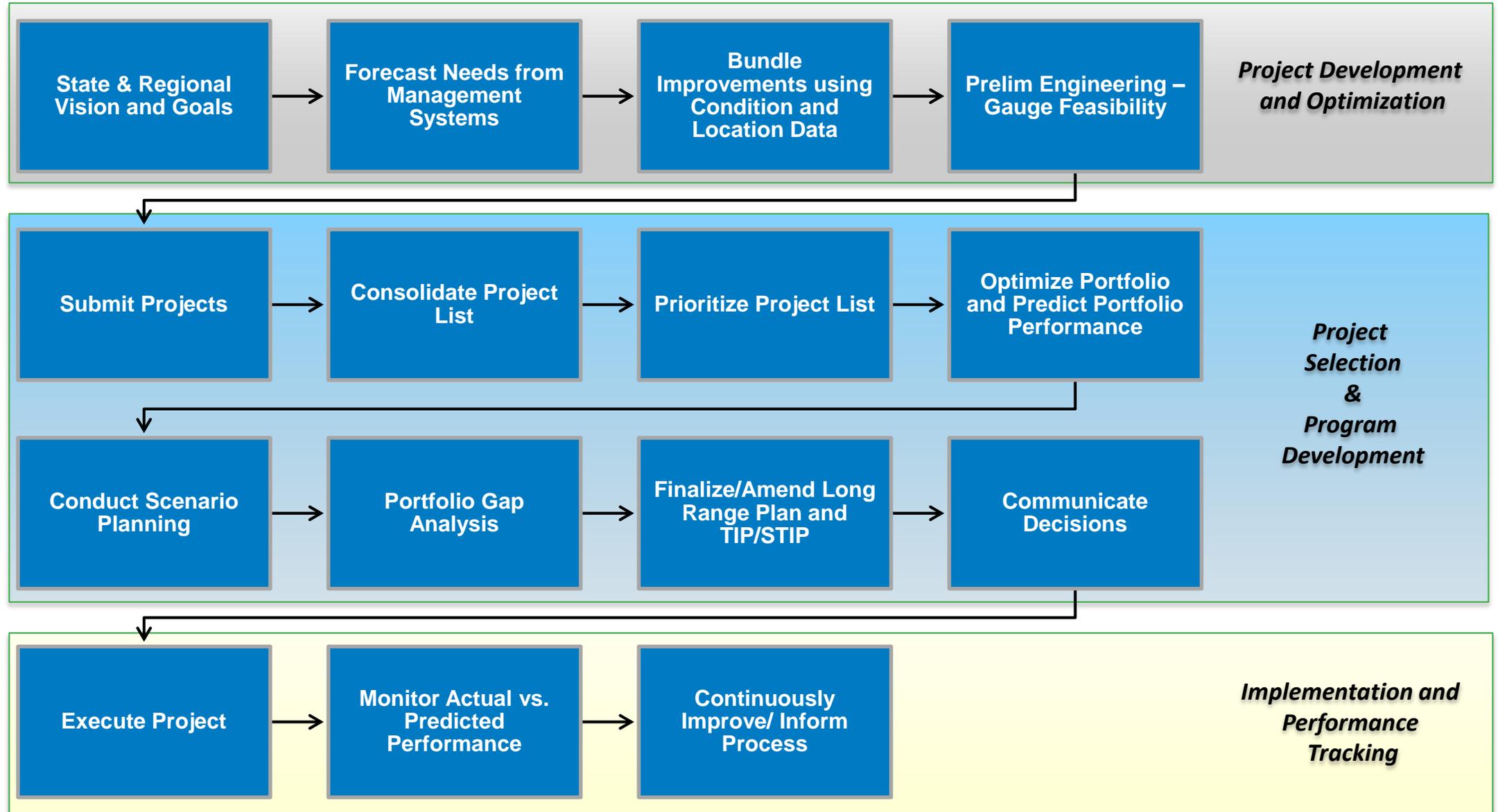
uniformity
in all
their maps
and data

as easy
to use as
their iPhone

▶ **At Work People Want...**



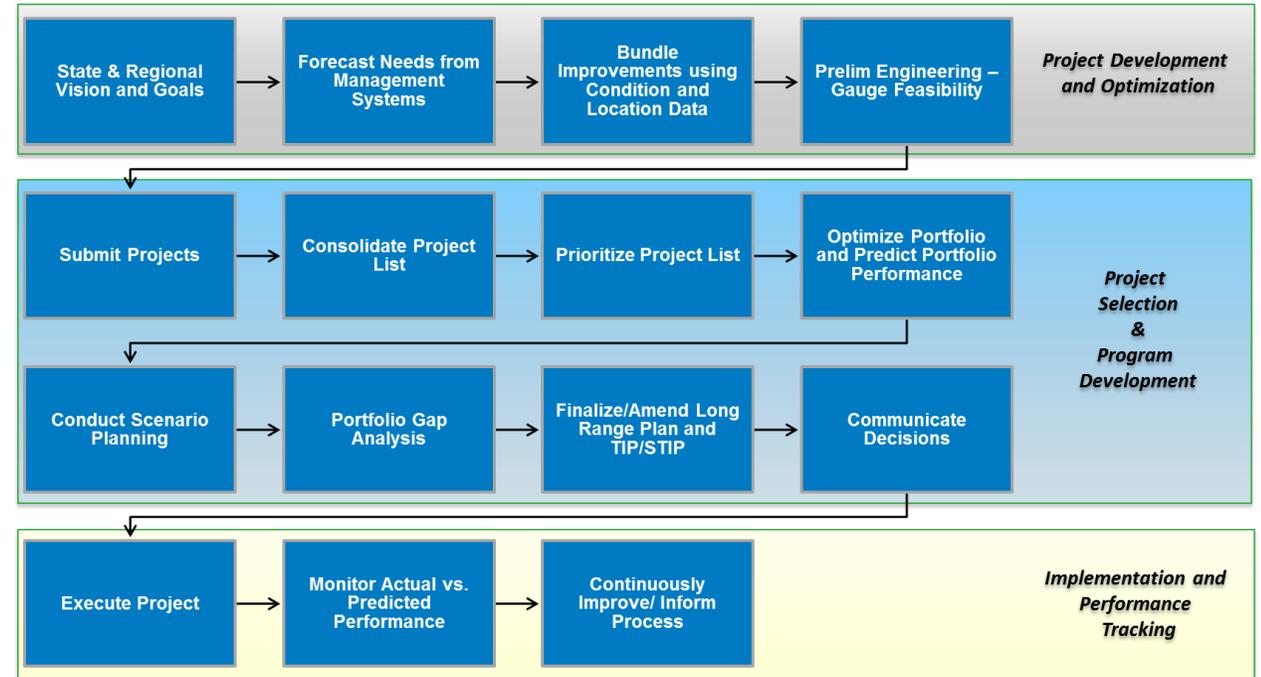
Performance Based Project Planning and Asset Management



Common Planning Challenge Areas

- Administration
- Project Prioritization and Portfolio Optimization
- Selection and Performance Transparency
- Disparate and Redundant Tools
- Equipping Planning Stakeholders
- Coordination and Alignment
- Identifying Funding Sources
- Communicating Value to the Public
- Supporting IT Systems

Performance-Based Planning and Asset Management

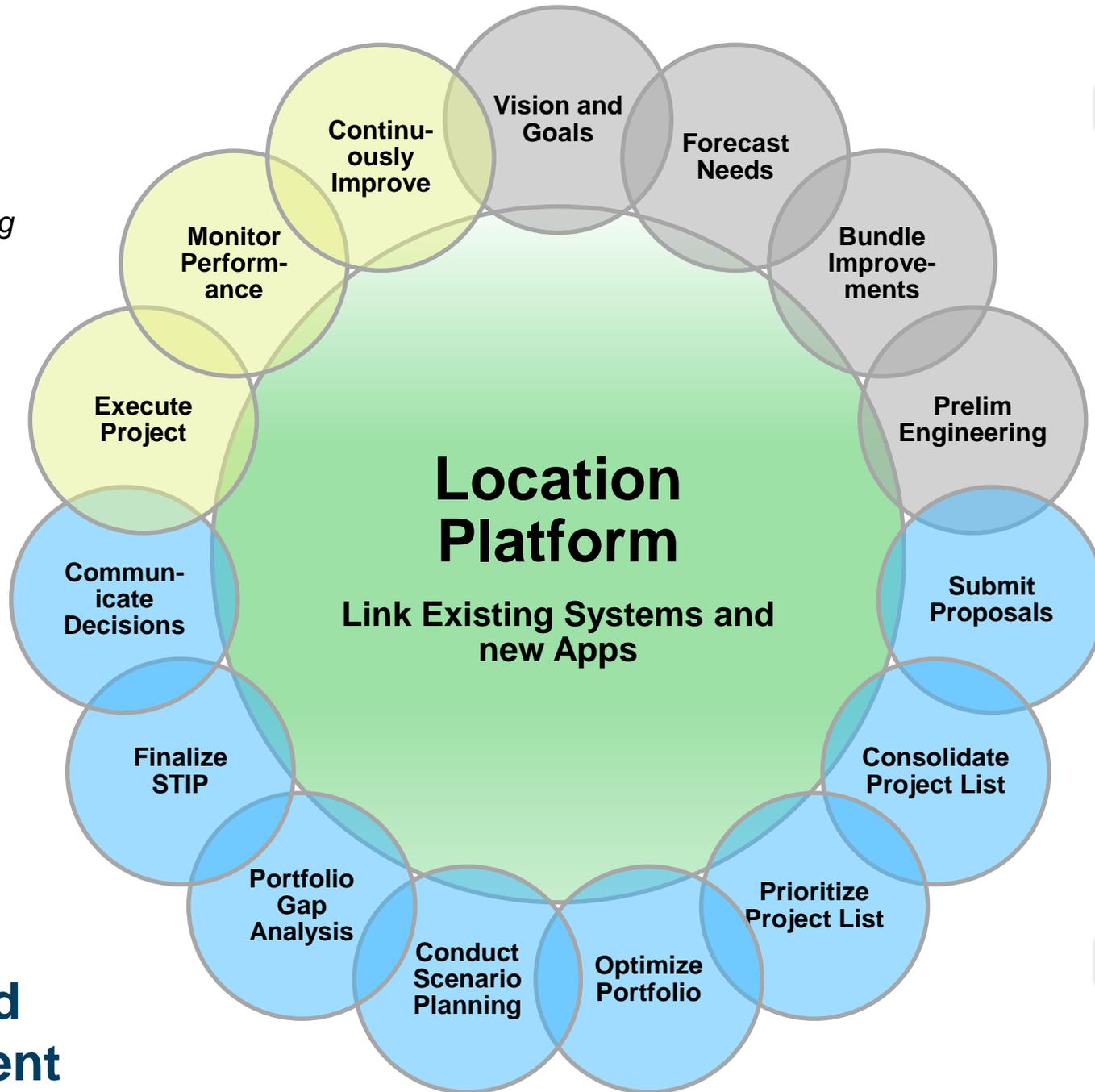


Performance Based Project Development and Asset Management

 *Implementation and Performance Tracking*

 *Project Development and Optimization*

 *Project Selection and Program Development*



NCHRP 800



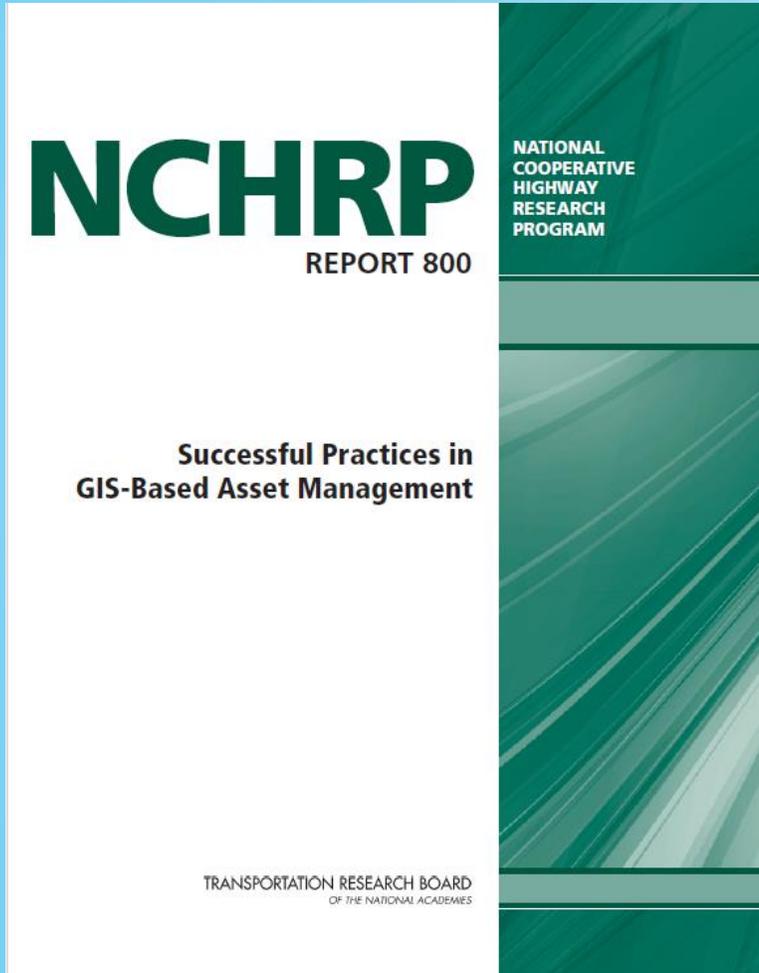
Successful Practices in GIS-Based Asset Management

Planning and asset management relies on **combining information from multiple** sources. Problem areas:

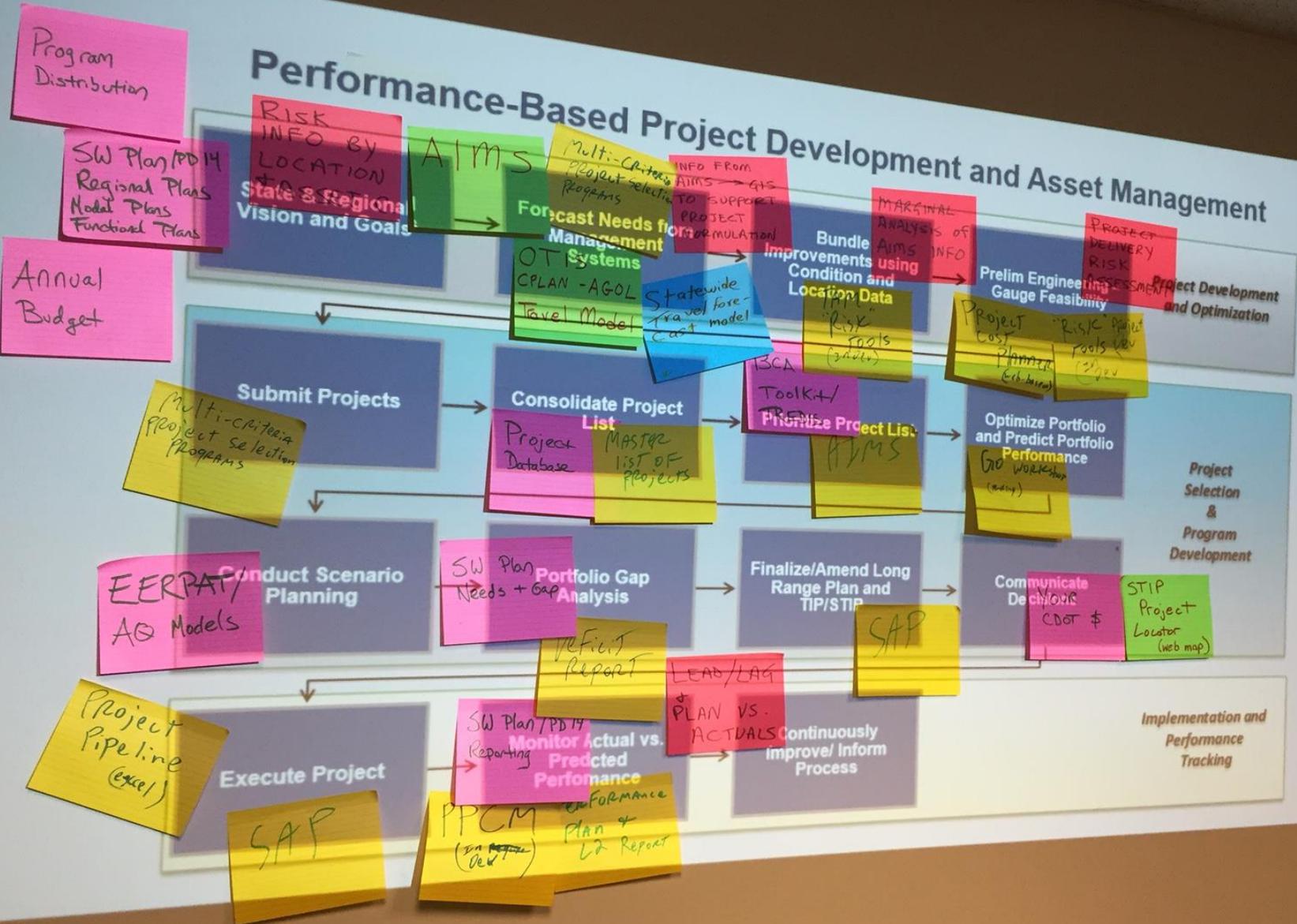
Integration of data is cumbersome, time-consuming and requires specialized expertise.

Siloed systems produce in **“multiple versions of the truth”**

Significant impact to an agencies’ ability to conduct effective analysis and **make the best decisions**



Performance-Based Project Development and Asset Management

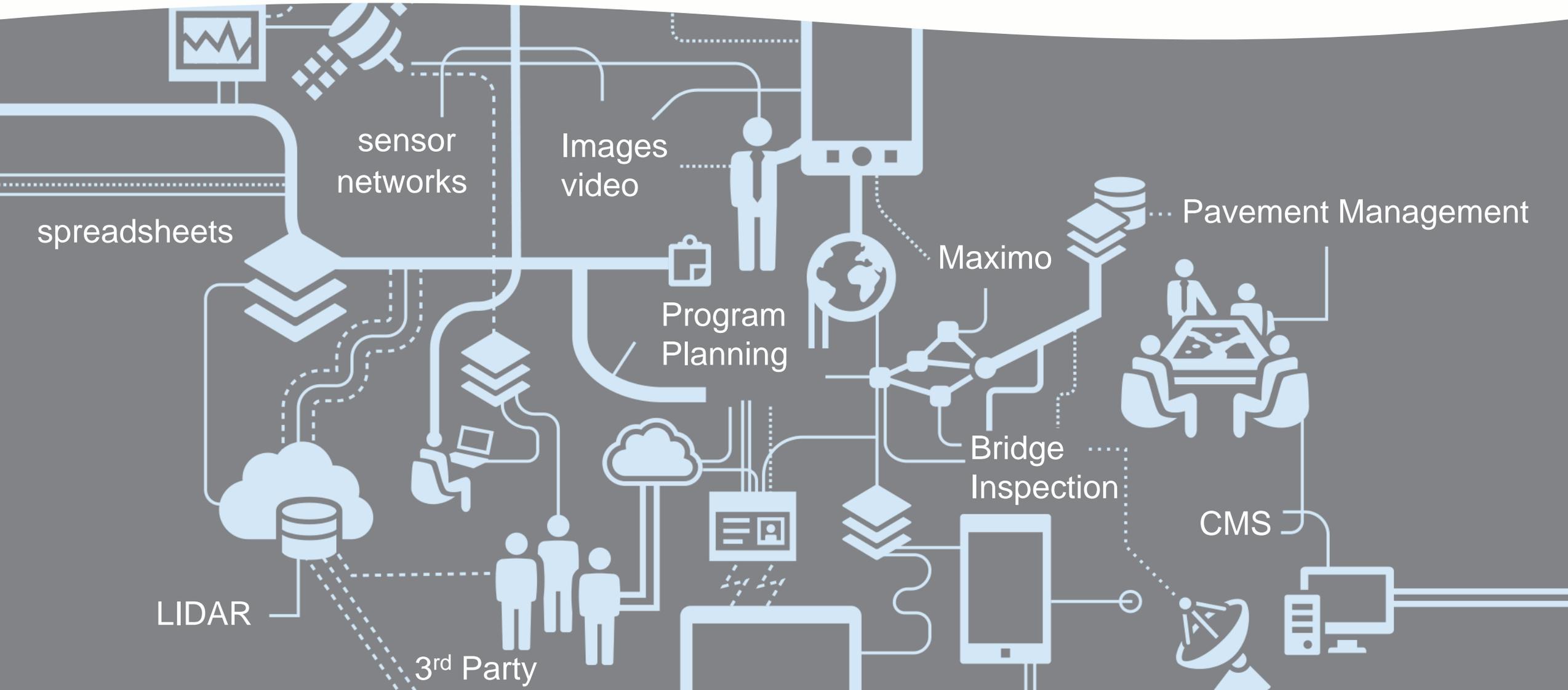




JUST ONE THING

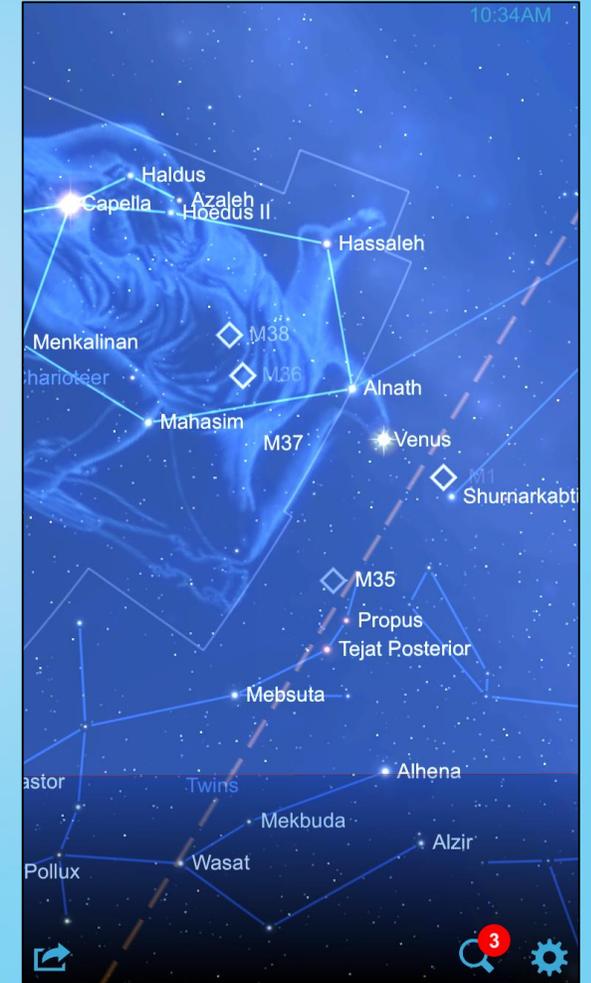
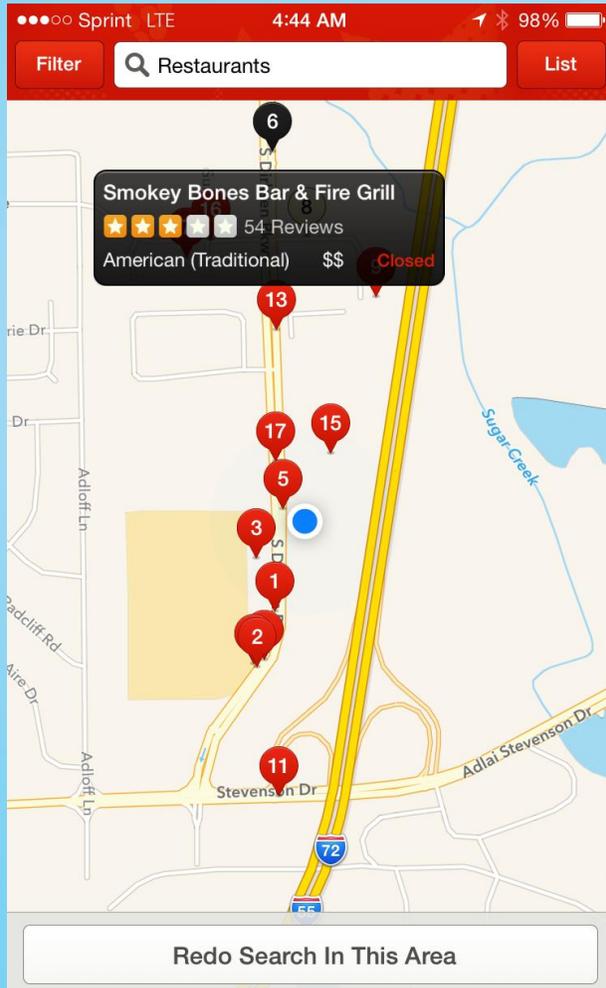
GIS establishes a “System of Record”

▶ Integrate, display, analyze, and enrich information from many sources



Location Aware Apps

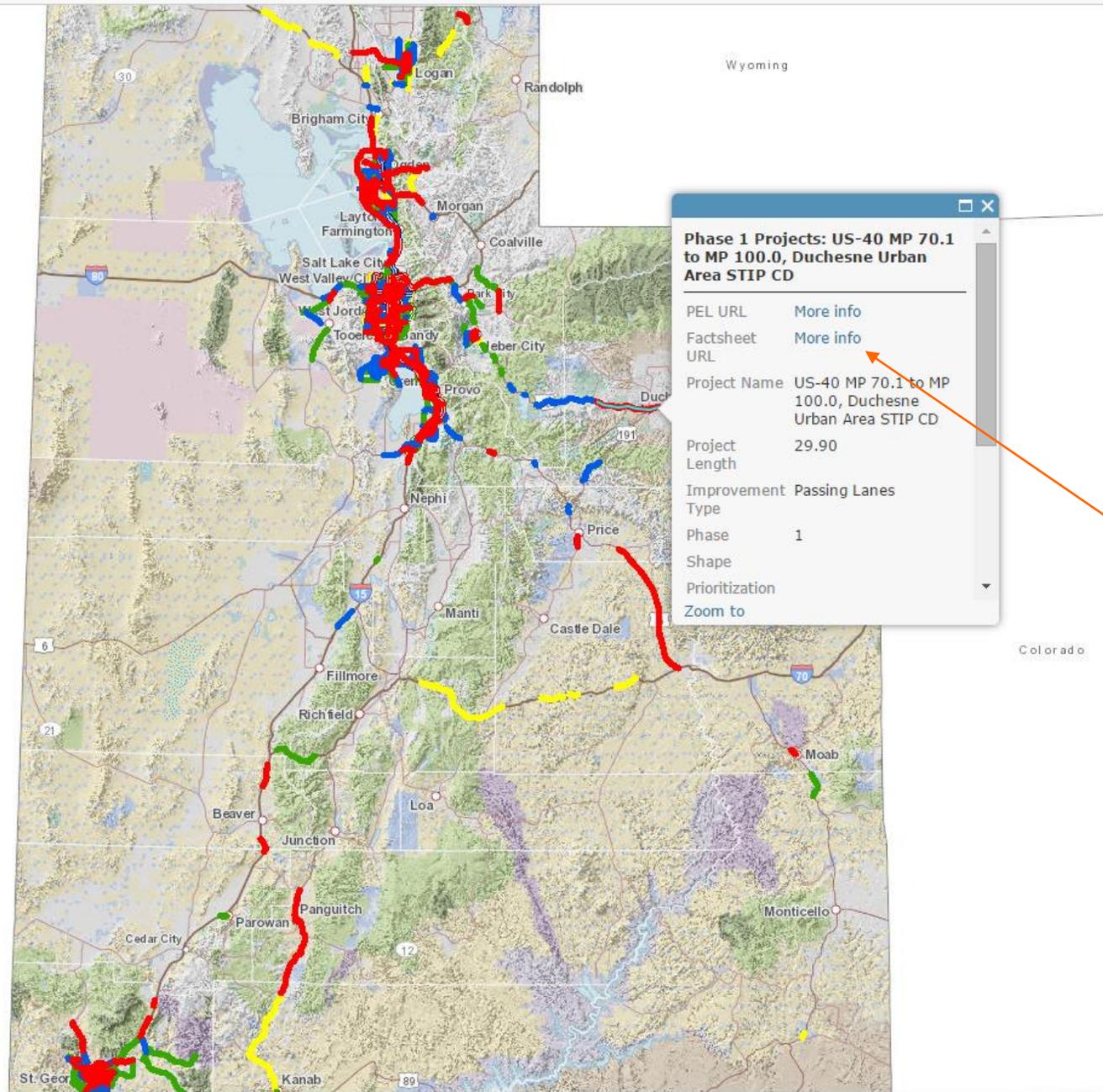
▶ Delivering Context to Improve Understanding and Make Better Decisions



Legend

Unified Plan (Consolidated)

- Phase 1
 - Phase 1 Projects
 - Phase 1 Transit Projects
- Phase 2
 - Phase 2 Projects
 - Phase 2 Transit Projects
- Phase 3
 - Phase 3 Projects
 - Phase 3 Transit Projects
- Phase 4 (Unfunded)
 - Phase 4 Projects
 - Phase 4 Transit Projects



Phase 1 Projects: US-40 MP 70.1 to MP 100.0, Duchesne Urban Area STIP CD

PEL URL	More info
Factsheet URL	More info
Project Name	US-40 MP 70.1 to MP 100.0, Duchesne Urban Area STIP CD
Project Length	29.90
Improvement Type	Passing Lanes
Phase	1
Shape	
Prioritization	
Zoom to	

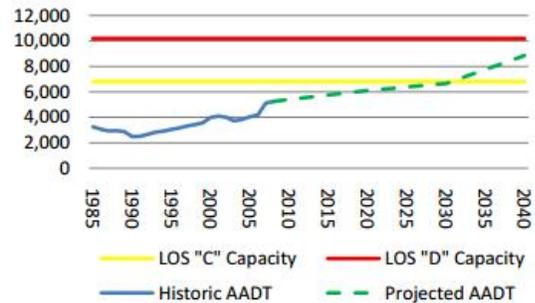
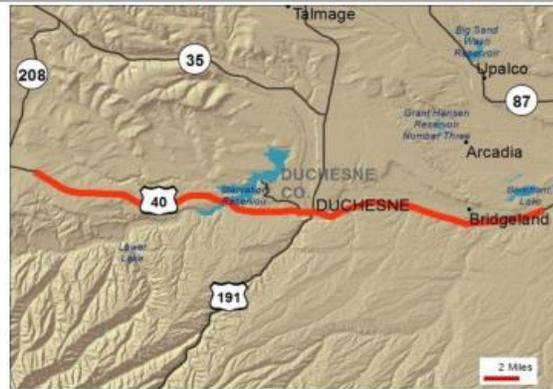
PROJECT INFORMATION:

Project ID: 09-326025-M01
County: Duchesne
Region: 3
Route Number: US-40
Beginning Milepost: 70.1
Ending Milepost: 100.0
Improvement Type: Passing Lanes
Total Length (miles): 29.9
Description:
 Add passing and climbing lanes
Long-Range Plan Phase: 1
Estimated Cost (2010 dollars): \$18,000,000
 Phase 1: \$18,000,000
 Phase 2:
 Phase 3:
Unfunded:

Purpose and Need:

Improve capacity and safety by providing passing opportunities.

US-40 MP 70.1 to MP 100.0, Duchesne Urban Area STIP CD

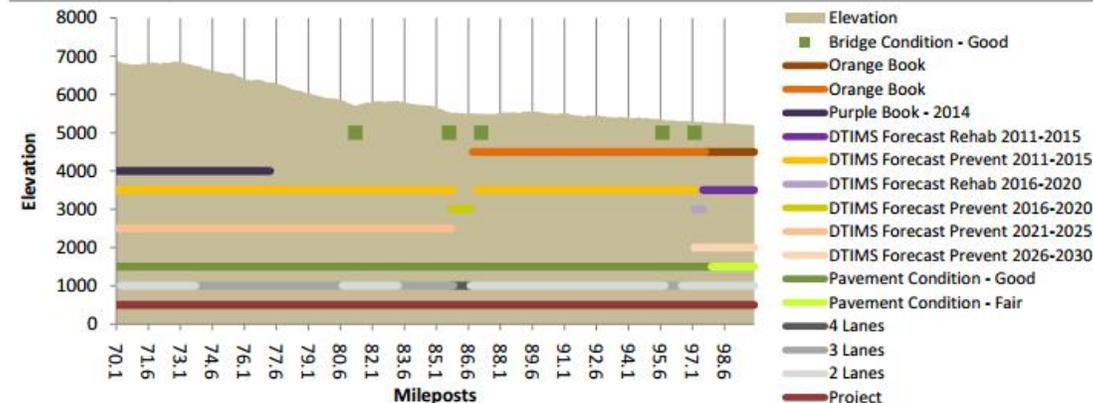


MAIN ROAD: US-40

SAFETY AND CAPACITY:

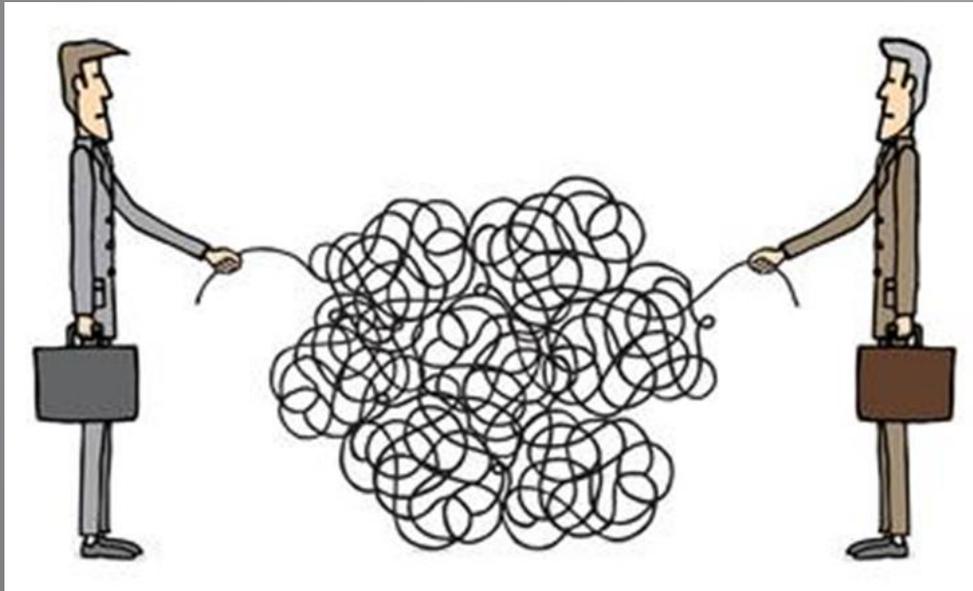
Proposed Travel Lanes: 3
Functional Class: Other Principal Arterial
Crash Rate (3-year Historic): 1.45
Average Crash Rate: 1.58
Severe Crash Rate: 3.13
Average Severe Crash Rate: 9.50
Truck Traffic: 46%

SYNCHRONIZATION:

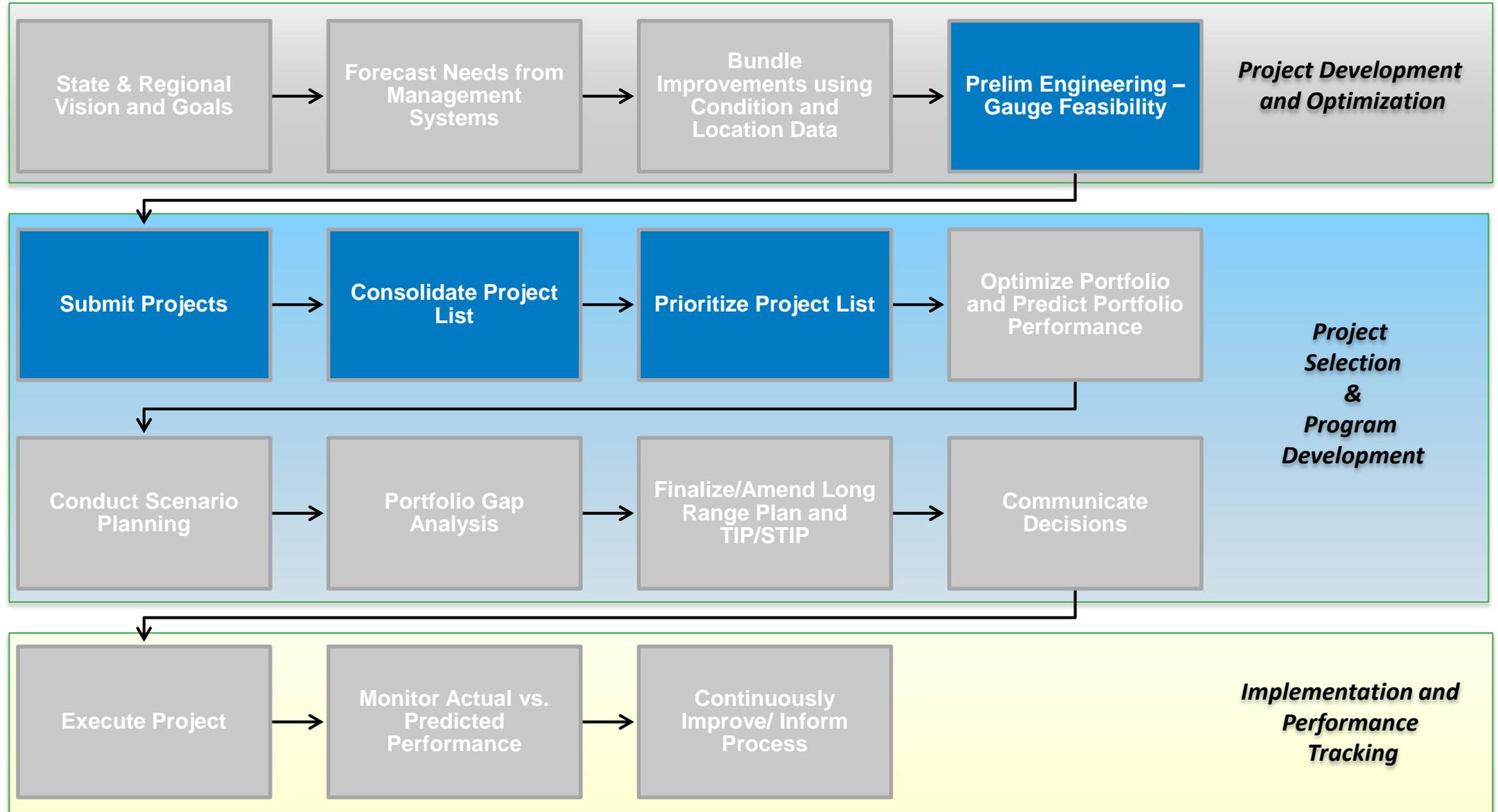


Complex Processes

Support complex planning processes with a suite of location aware apps



NCDOT SPOT Online & Performance-Based Project Development



SPOT Online Welcome Tom Brennenman on behalf of MPO Winston-Salem Urban Area MPO Logout Users About Contact Us

Create New Project Cancel

Identify Show Other Highway Projects

Project type
Route
3 Map Sketch
4 Details
5 Cost
6 Score
7 Summary

Layers Legend
Speed
 P3 CTP Junctions
 P3 CTP Highway
 P3 CTP Highway New Location
 P3 CTP Minor
 P3 Transportation Terminals
 P3 Municipal Boundaries
 P3 Average Commute Times
 P3 County Tiers
+ Add new layer
+ Add shapefile

There is 1 step required to define the project location. This is STEP 1 of 1.
Define your project location by selecting an existing road segment. clear

3 Map Sketch 1 Select contains

SPOT Online Welcome

Create New Project Cancel

4 Details

Spot Id	Improvement Type	Route
H140020	5 - Construct Roadway on New Location	NC-62-BYP-Winston-Salem Bypass

Project type
Route
Map Sketch
4 Details
5 Cost

Is this Project part of the adopted Comprehensive Transportation Plan (CTP) or Long-Range Transportation Plan (LRTP)? Yes No

Name of the Plan: Winston Salem Bypass

Year the plan was adopted: 2010

Project Cross Section: 6A - 6 Lane Divided (48' Depressed Median) with Paved Shoulders [see all road](#)

TYPICAL SECTION No. 6A
6 LANE DIVIDED (48' DEPRESSED MEDIAN) WITH PAVED SHOULDERS

[open image in a separate window](#)

Existing Data

Access Control: -- Select -- None

Speed Limit: 45 MPH 45 MPH

Terrain Type: -- Select -- Rolling

Facility Type: -- Select -- Arterial

SPOT Online Welcome

Create New Project Cancel

6 Score

Spot Id	Improvement Type	Route
H140020	5 - Construct Roadway on New Location	NC-62-BYP-Winston-Salem Bypass

Regional Impact: 22.61
Division Needs: 16.00

Regional Impact	
Congestion (VIC) (25%)	53.65
Safety (10%)	56.63
[Travel Time] Benefit/Cost (25%)	1.07
Accessibility / Connectivity (10%)	32.77

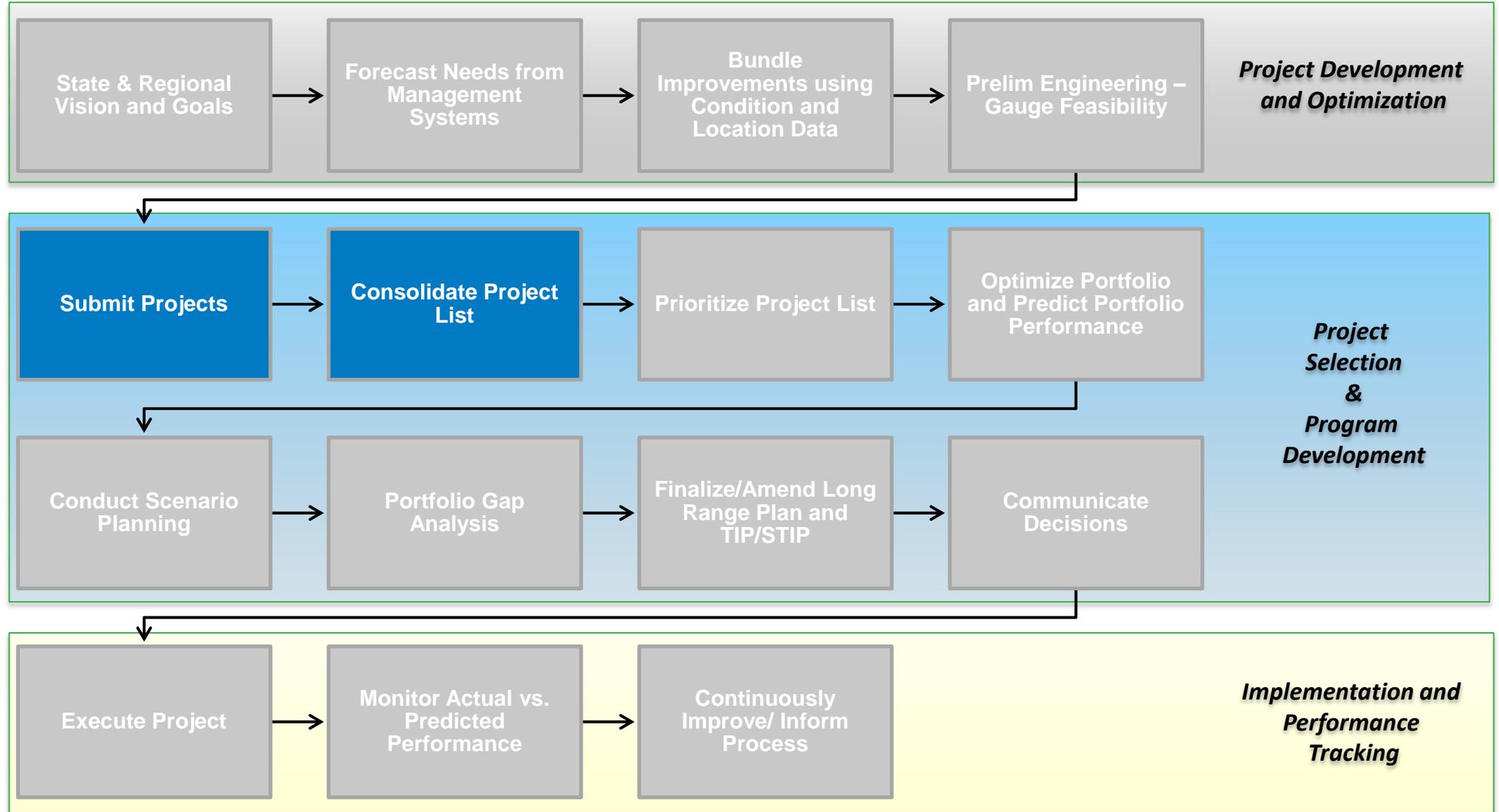
Division Needs	
Congestion (VIC) (20%)	53.65
Safety (10%)	56.63
[Travel Time] Benefit/Cost (20%)	1.07

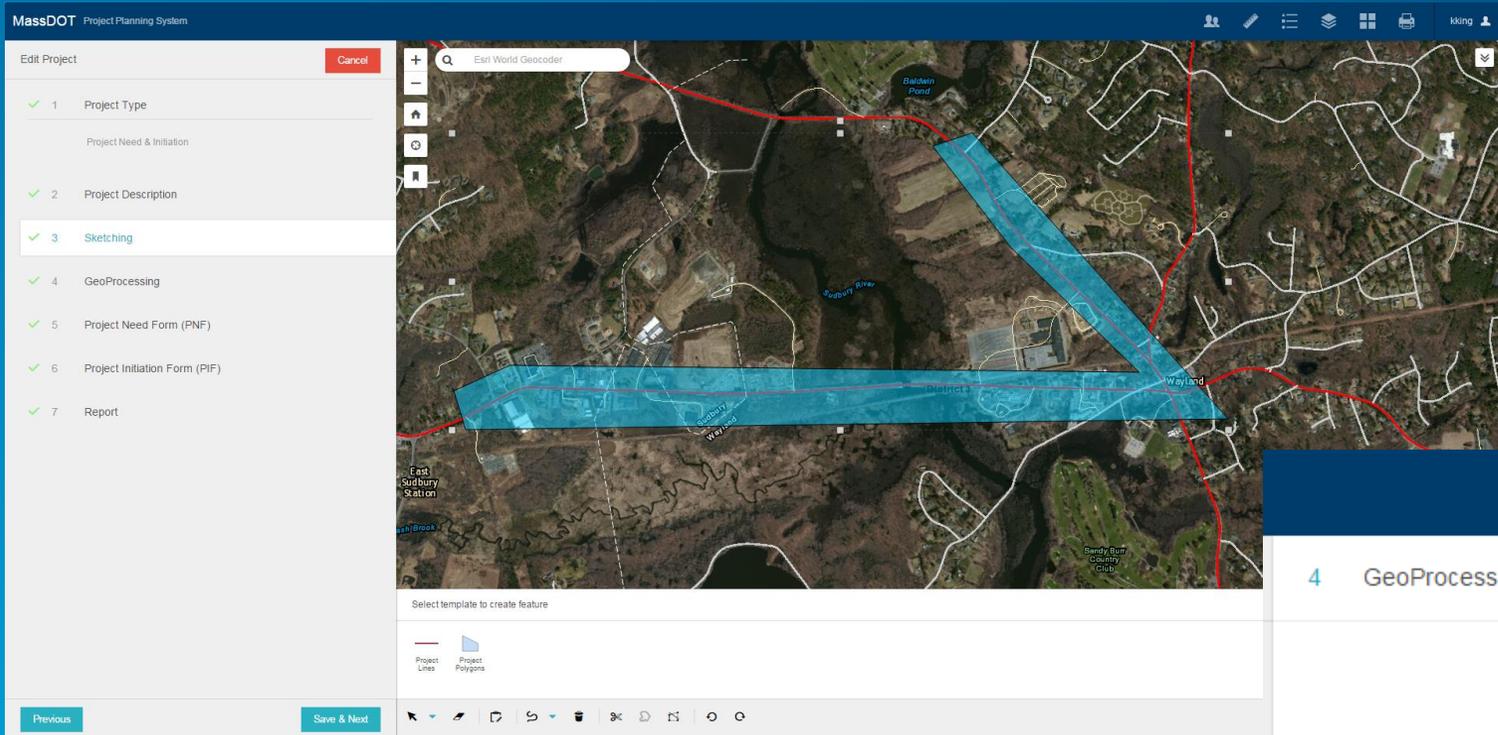
Project type
Route
Map Sketch
Details
Cost
6 Score
7 Summary

Previous Save & Next

NC Project Prioritization System

Performance Based Project Planning and Asset Management





MassDOT Project Planning System (MaPPS)

4 GeoProcessing

Run GeoProcessing

Running script Tool...

Intersection found with Road Inventory...

Intersection found with MassDOT Inventory of Flood Prone Areas...

Intersection found with Bridge Database...

No Intersection found with HSIP Clusters...

No Intersection found with HSIP Pedestrians Crash Clusters...

No Intersection found with HSIP Bicycle Crash Clusters...

No Intersection found with NHESP Certified Vernal Pools...

No Intersection found with Massachusetts Coastal Zone...

Intersection found with NHESP 2008 Estimated Habitats of Rare Wildlife...

Intersection found with BioMap2 Core Habitat...

Intersection found with Wild and Scenic River...

Succeeded at Wed May 06 06:33:45 2015 (Elapsed Time: 17.91 seconds)

Leverage the GIS Platform for Planning

► Configure or build maps and apps for transportation planning on your GIS platform

UPlan
UDOT Map Center

zero Fatalities
A Goal We Can All Live With

LIDOT Fiber gallery

LIDOT Pavement Management map

LIDOT 3 Year Plan Maps & Apps gallery

CLICK REGION TO VIEW GALLERY

UDOT has 100's of items available on UPlan. Here are 4 common ways to search:

Ribbon Gallery By Region Search Bar

LIDOT DATA PORTAL



This gallery displays the three year plan data by Region and Statewide for review.

Search maps

Introduction - Three Year Plan Guide

Program of Projects Plan map

Three Year Plan (By Program) map

Three Year Plan (By Year) map

Three Year Plan (By Year) app

Three Year Plan (with Maintenance Stations) map

Three Year Plan Map (Region 1)

Three Year Plan Map (Region 2)

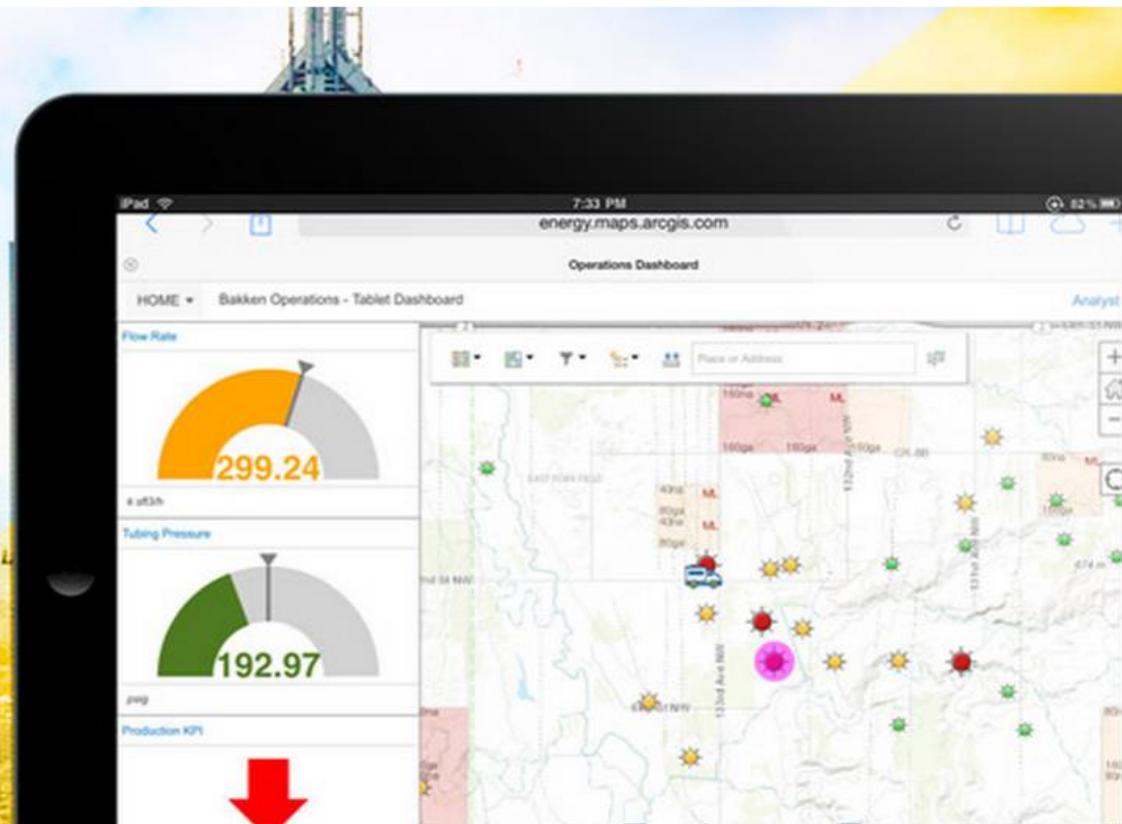
Three Year Plan Map (Region 3)

Three Year Plan Map (Region 4)

Products

Operations Dashboard for ArcGIS

Get Started →



Monitor, Track, and Assess Your Daily Operations

Stay on top of your operations by monitoring, tracking, and reporting real-time data feeds. Whether you're concerned about a major event or keeping an eye on day-to-day activities, you can use Operations Dashboard for ArcGIS to focus on what matters most to you.



Sign In

Industries ▾

Products ▾

Support & Services ▾

About ▾

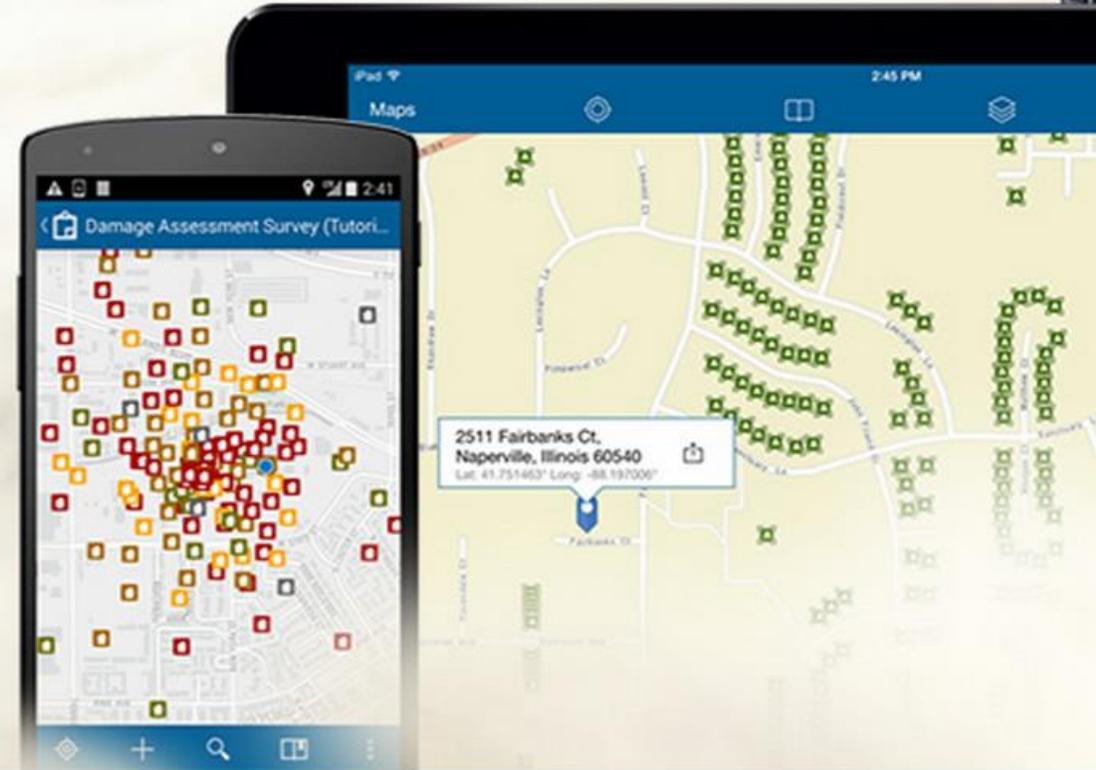
Community ▾



Products

Collector for ArcGIS

Get Started →



Collect and Update Data in the Field

Put mapping in the hands of your field work force to improve the accuracy and currency of your spatial data and make more timely and informed decisions.

Products

Esri Maps for Office

Get Started →



Be More Productive with Location-Based Analytics

Esri Maps for Office brings a whole new analytical dimension to Microsoft Office. With this easy-to-install add-in, you can quickly create interactive maps from your Excel data and start gaining new insights and making better, more informed decisions immediately.



Explorer for ArcGIS

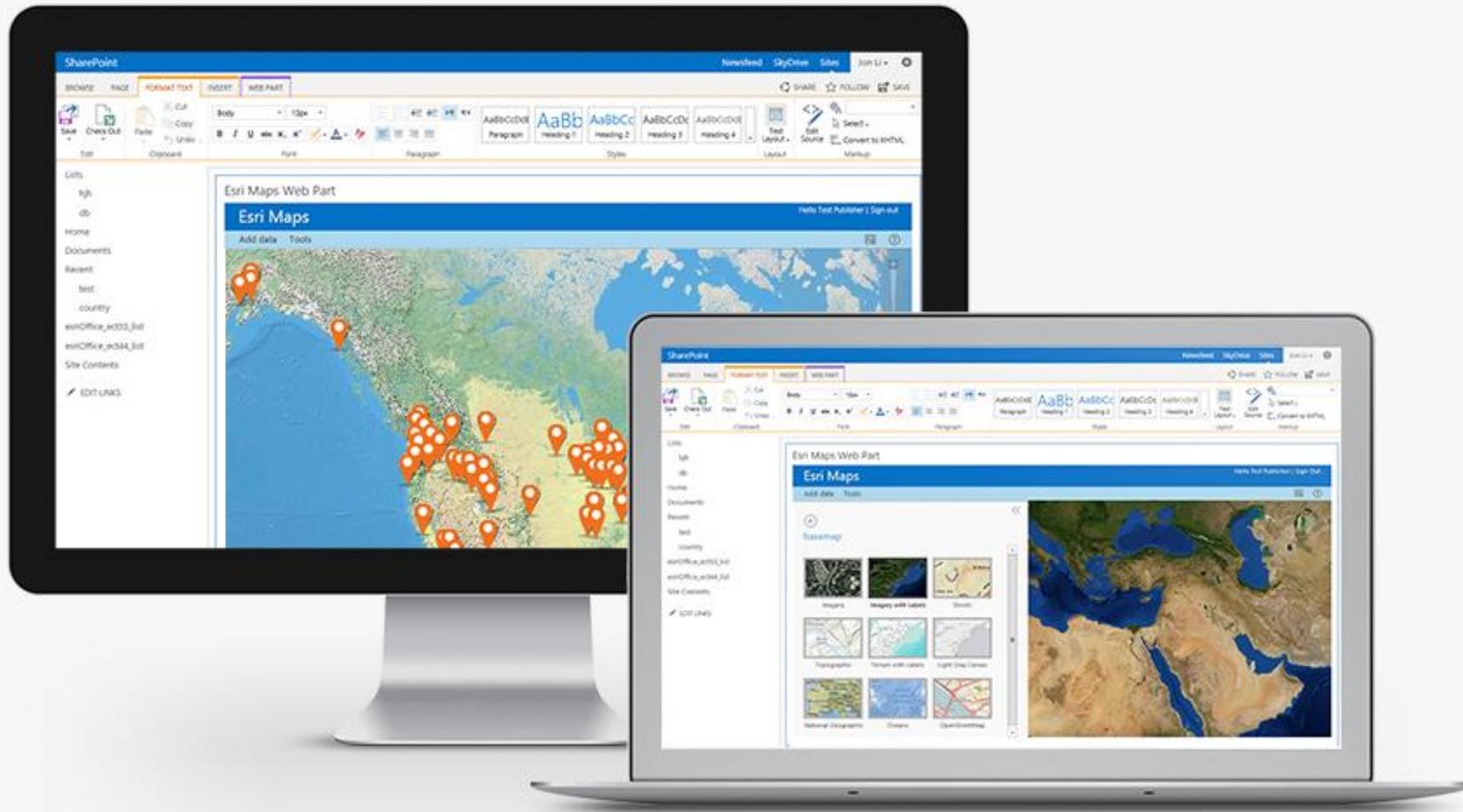
Allow everyone in your organization to discover, analyze, use, and share maps on their Mac, iOS, or Android device. View information about your assets, search for places and features, or sketch on the map to highlight important aspects of your data. You can share your maps with other Explorer for ArcGIS users and view engaging map presentations. Even those without an ArcGIS Online subscription can access publicly shared maps.



GeoPlanner for ArcGIS

Everything you need for land-based planning in one app. From project creation and data management to creating and evaluating scenarios, with GeoPlanner for ArcGIS, you can manage all aspects of your planning process more efficiently by applying the principles of geodesign.

[Learn More about GeoPlanner for ArcGIS](#)



Esri Maps for SharePoint

Map your organization's data in SharePoint lists or your data warehouse. Visualize key business measures in dynamic color-coded, point, clustered point, or heat maps. Enrich your data with Esri's demographic and lifestyle data and get deeper insights then share your maps through ArcGIS Online with others so you can collaborate and make more informed decisions.



AppStudio for ArcGIS

Easily convert your maps into beautiful, consumer-friendly mobile apps for Android, iOS, Windows, OS X, and Linux. Publish apps using your own brand to all popular app stores, or share them securely within your own enterprise - no developer skills required.

[Learn More about AppStudio for ArcGIS](#)

Transportation Planning Apps Under Consideration

- Workflow Definition and Management
- District Analysis Tool
- Capital Projects Viewer (TIP/STIP Viewer)
- Project Submitter
- Public Engagement
- Air Quality & Travel Demand
- Funding Options
- Prioritization Calculator
- Performance Monitoring
- Executive Dashboards



Write Code

Use COTS



*Software
Developer Kits*

*Web App
Builder*

*Tools
Widgets
Templates*

(NCDOT)

(MassDOT)

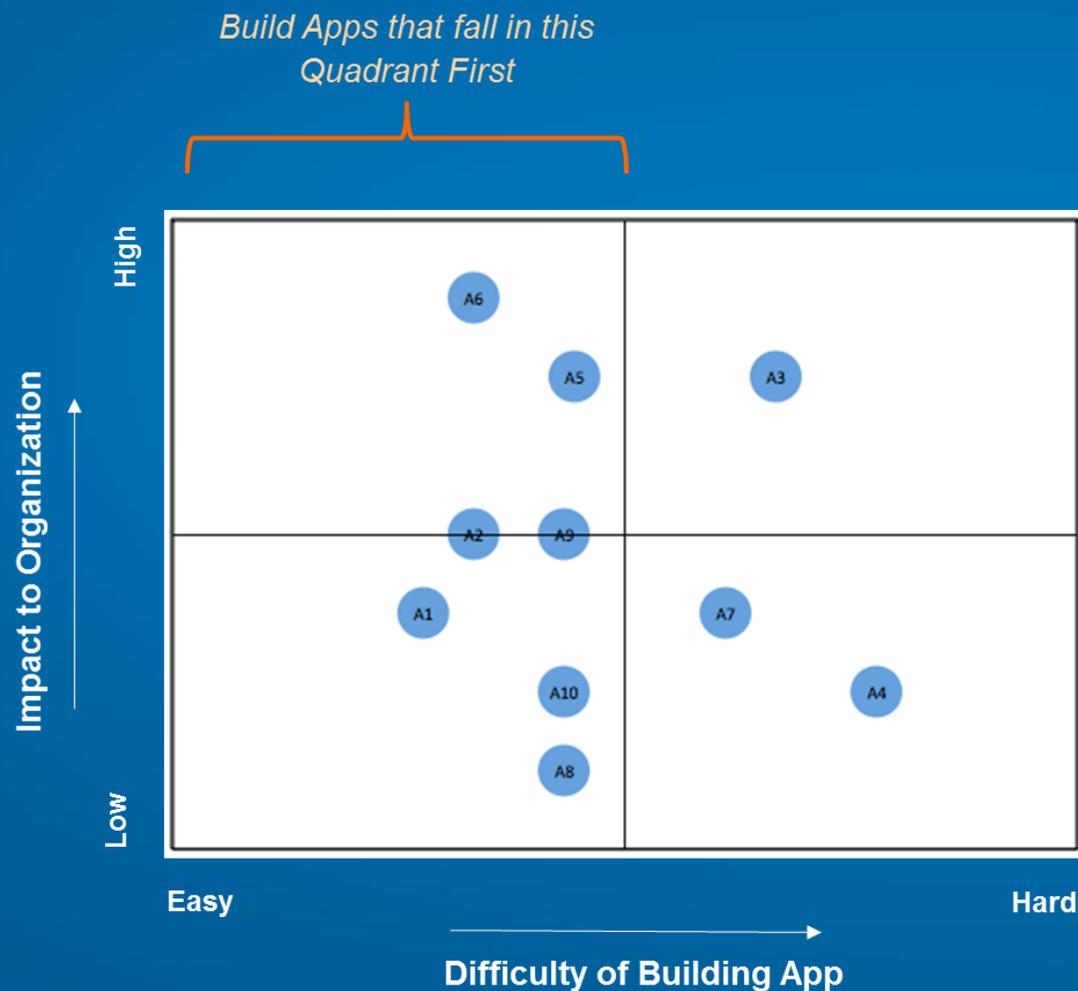
(Future Planning Apps)

Comparing Solution Approaches

Configure verses Customize

Prioritize for Quick Wins

▶ Rapidly deploy initial operating capability to everyone then develop targeted apps that integrate with other systems



Action Plan

Rapidly deploy initial operating capability to everyone then develop targeted apps that integrate with other systems





Keith King

704-771-4494

kking@esri.com